Amendments to the Claims:

1. (Original) An image sensor comprising a plurality of pixels, each pixel comprising: a light sensor element (12), a sensor voltage across the element varying depending on the light incident on the element (12); a voltage amplifier (16) having gain greater than 1; and a sampling capacitor (18) charged by the voltage amplifier.

2. (Previously Presented) An image sensor as claimed in claim 1, wherein each pixel further comprises a pixel storage capacitor (14) connected to the light sensor element (12) and wherein the voltage gain between the pixel storage capacitor and the sampling capacitor is greater than one.

3. (Original) An image sensor as claimed in claim 2, wherein the capacitance of the sampling capacitor (18) is less than 10 times the capacitance of the pixel storage capacitor (14).

4. (Original) An image sensor as claimed in claim 3, wherein the capacitance of the sampling capacitor (18) is less than 2 times the capacitance of the pixel storage capacitor (14).

5. (Original) An image sensor as claimed in claim 4, wherein the capacitance of the sampling capacitor (18) is approximately equal to the capacitance of the pixel storage capacitor (14).

6. (Currently Amended) An image sensor ~~as claimed in claim 3,~~ comprising a plurality of pixels, each pixel comprising:

a light sensor element (12), a sensor voltage across the element varying depending on light incident on the element (12);

a pixel storage capacitor (14) connected to the light sensor element (12);

a voltage amplifier (16) having a gain greater than 1; and

a sampling capacitor (18) charged by the voltage amplifier,

wherein a voltage gain between the pixel storage capacitor and the sampling capacitor is greater than one,

wherein the capacitance of the sampling capacitor (18) is less than 10 times the capacitance of the pixel storage capacitor (14), and

wherein the capacitance of the sampling capacitor (18) is in the range 0.5 pF to 3 pF, and the capacitance of the pixel storage capacitor (14) is in the range 0.5 pF to 3 pF.

7. (Original) An image sensor as claimed in claim 1, wherein the capacitance of the sampling capacitor (18) is less than 10 times a self-capacitance of the light sensor element (12).

8. (Original) An image sensor as claimed in claim 7, wherein the capacitance of the sampling capacitor (18) is less than 2 times the self-capacitance of the light sensor element (12).

9. (Previously Presented) An image sensor as claimed in claim 7, wherein the capacitance of the sampling capacitor (18) is in the range 0.5 pF to 3 pF, and the self-capacitance of light sensor (12) is in the range 0.5 pF to 3 pF.

10. (Previously Presented) An image sensor as claimed in claim 1, wherein the gain of the voltage amplifier (16) is in the range 2 to 5.

11. (Previously Presented) An image sensor as claimed in a claim 1, wherein the voltage amplifier (16) comprises first (38) and second (40) transistors in series between power lines (15), the light sensor element (12) being connected to the gate of one of the transistors (40), and a bias voltage (44) being connected to the gate of the other transistor (38), the output of the voltage amplifier (16) being defined at the connection between the first and second transistors (38, 40).

12. (Original) An image sensor as claimed in claim 11, wherein the output of the voltage amplifier (16) is connected to one terminal of the sampling capacitor (18), the other terminal of the sampling capacitor (18) being connected to the pixel output through an output switch (22; 34).

13. (Previously Presented) An image sensor as claimed in claim 1 wherein each pixel further comprises an input switch (20; 30) for applying a fixed potential (Vreset) across the light sensor element.

14. (Original) A method of measuring light intensity of an image to be detected using a plurality of light sensor elements (12) each forming a pixel of an image sensor, a sensor voltage (Vin) across the elements varying depending on the light incident on the elements, the method comprising: amplifying the sensor voltage (Vin) using an in-pixel voltage amplifier (16) having a gain greater than 1; charging a sampling capacitor (18) with the amplified voltage (Vout) and measuring the flow of charge required to charge the sampling capacitor (18).

15. (Original) A method as claimed in claim 14, wherein a reset operation is carried out before amplifying the sensor voltage (Vin), the reset operation comprising applying a known potential to one terminal of the sampling capacitor (18) and applying a known potential (Vreset) across the sensor element, the amplified voltage (Vout) being subsequently applied to the other terminal of the sampling capacitor (18).

16. (Previously Presented) A method as claimed in claim 14, wherein the voltage gain between a pixel storage capacitor and the sampling capacitor is greater than one.

17. (Original) A method as claimed in claim 16, wherein the capacitance of the sampling capacitor (18) is less than 2 times the capacitance of the pixel storage capacitor (14).

18. (Previously Presented) A method as claimed in claim 17, wherein the capacitance of the sampling capacitor (18) is approximately equal to the capacitance of the pixel storage capacitor (14).

19. (Previously Presented) A method as claimed in claim 14, wherein the gain of the voltage amplifier (16) is in the range 2 to 5.

20. (Previously Presented) An image sensor as claimed in claim 11, wherein the second (40) transistor has a non-unity voltage amplification.